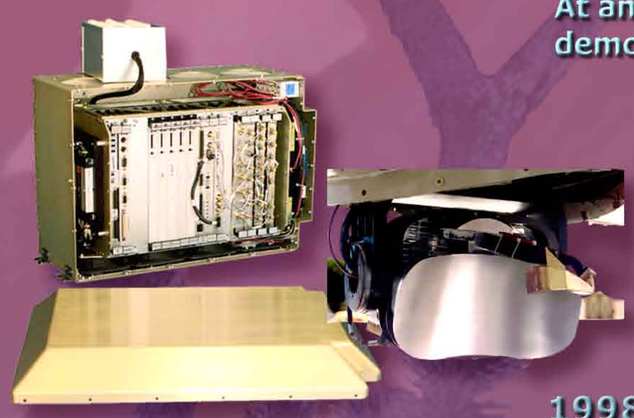
Miniature Synthetic Aperture Radar (miniSAR) FACTS - 2005

2005
25 lbs
4-inch Resolution

Performance/Specifications

Specification	Value	Notes/Comments
Weight	Radar electronics assembly (REA): 9 lbs Antenna/gimbal assembly (AGA): 17 lbs System total: 27 lbs with cables	Follow-on version will be 18 lbs
Size	REA: ~ 7-inch cube AGA: ~ 10-inch cube	
Frequency	16.8 GHz	Readily extensible to X/Ka-bands
Resolution	4-inch minimum	Spotlight mode, real-time
Range	15 km @ 4-inch resolution 23 km @ 12-inch resolution	Other range/weight tradeoffs 35 km with 31.5 lb AGA 5 km with 7 lb AGA
Tx Power	60 W	
Modes	Spotlight	Stripmap, GMTI, CCD (follow-on)



1998
120 lbs
4-inch Resolution

At any size/weight, the image quality and resolution demonstrated by Sandia SARs remains unequaled.

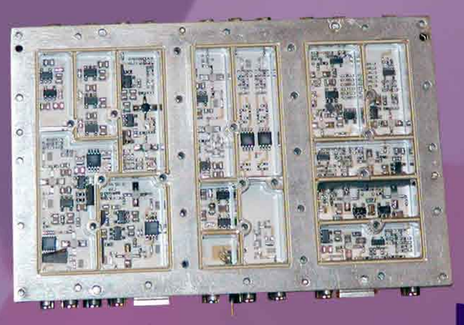
Subsystem/Technologies -
Designed and Developed
all major component assemblies:

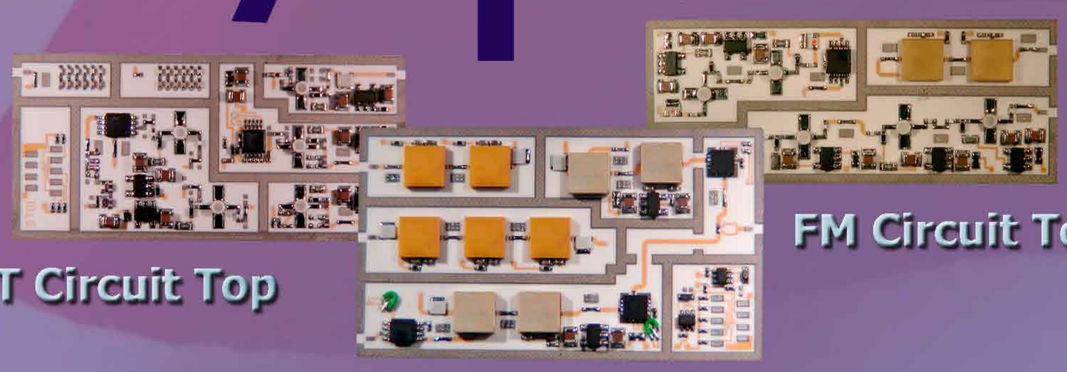
* Gimbal
* Antenna
* RF Module
* Waveform synthesizer
* Digital Receiver
* Embedded process, image formation algorithms, and motion measurement/compensation

1990
500 lbs
6-inch Resolution

MiniSAR fills a void in current remote sensing technology by providing unprecedented image quality and resolution while achieving a 4 to 5x reduction in size, weight, and cost.

MiniSAR gives small UAVs the ability to see through smoke, dust, clouds, heavy rain and night.





ST Circuit Top

FM Circuit Top

TR Circuit Top

Similarly, the miniSAR sensor has broad application to all-weather, precision guided weapons.

MiniSAR is an in-development program; the initial verson has been flight tested.

Sandia National Laboratories

National Nuclear Security Administration

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,
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